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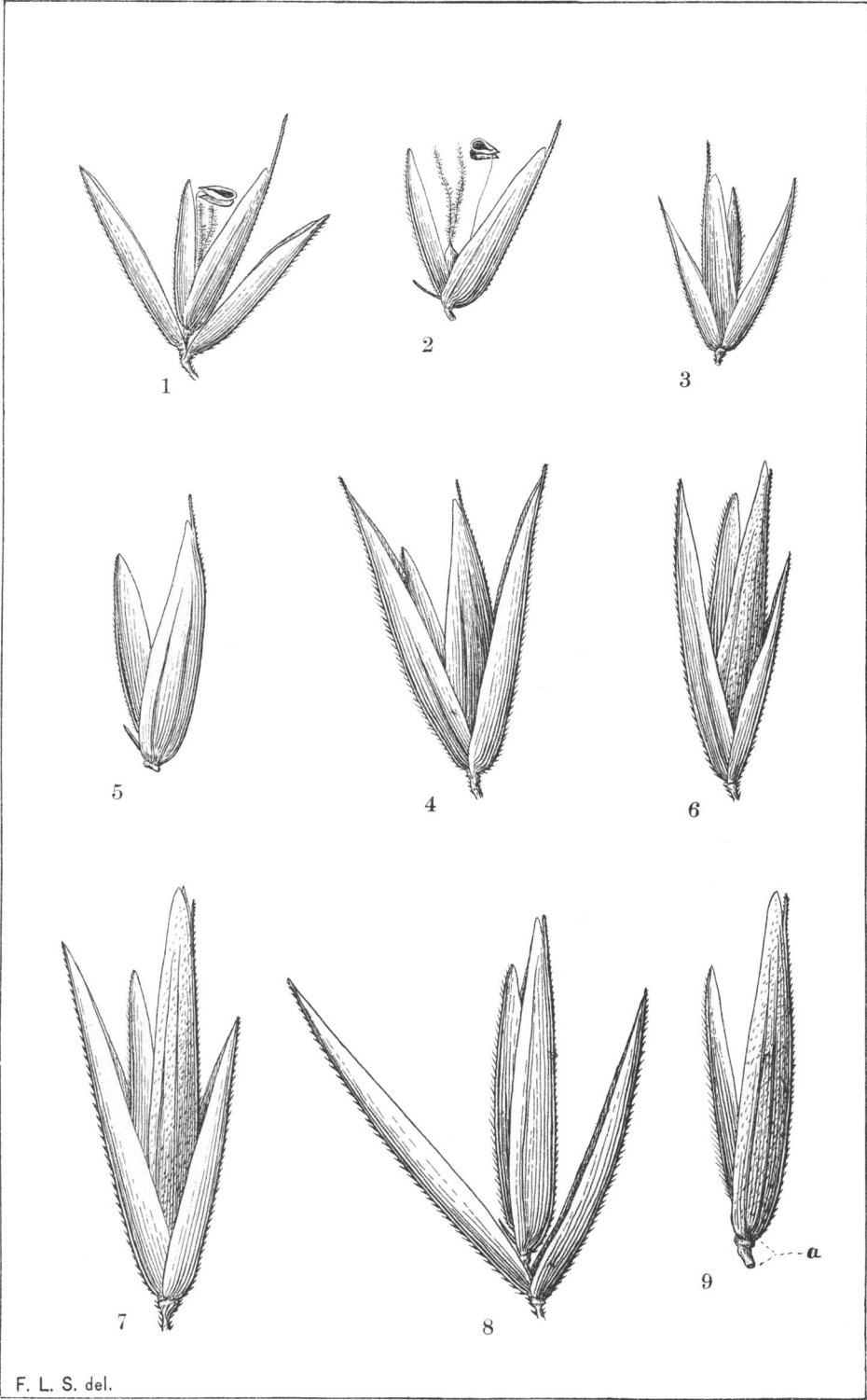
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SCRIBNER ON CINNA.

OBSERVATIONS ON THE GENUS CINNA, WITH DESCRIPTION OF A
NEW SPECIES.

BY F. LAMSON SCRIBNER.

Two species of *Cinna*,¹ common to the northern regions of both the old and the new world, have long been recognized. They are *C. arundinacea* L. and *C. pendula* Trin. The latter, the more common of the two, has been reduced to a variety of the first-named, by some authors; but, aside from a marked diversity in habit, there are important differences in the characters of the spikelets quite sufficient to warrant a specific distinction. In *C. arundinacea* the spikelets are larger, firmer in texture, more strongly scabrous, more prominently nerved and there is a decided inequality in the outer or empty glumes, while in *C. pendula* these glumes are equal or nearly so. In both the floret is stipitate, or raised on a short stalk above the insertion of the empty glumes; in other words, there is a slight elongation of the axis of the spikelet between the two empty glumes and the flowering glume. Mr. Bentham, in his "Notes on Gramineæ," states that in *C. arundinacea* there is frequently a continuation of the rachilla in the form of a short naked pedicel behind the palea: a character, he adds, that he has never seen in *C. pendula*. In my own studies, I have found this prolongation of the rachilla, a common, not constant, character in both species. I have observed it in the spikelets of *C. pendula* from Maine and from Oregon; in fact, my own observations would lead me to say that it appears more frequently in that species than in *C. arundinacea*.

In regard to the variations in these two species something may be said. *C. arundinacea* exhibits considerable diversity in the size and diffuseness of its panicle and the spikelets, which range from a little over two to nearly three lines in length, vary in color from pale green to dark purple, but those characters mentioned above as distinguishing this species from *C. pendula*, remain constant. There is greater variation of the panicle in *C. pendula*, and also in the size of the spikelets; these, however, never reach two lines in length, and, although the empty glumes

¹ *Cinna macroura* Kth. and other grasses that have been placed in this genus, are now referred to *Epicampes* or *Deyeuxia*.

differ considerably as to width, acuteness and in the presence or absence of the lateral nerves in the second one, they are always very nearly equal in length. In the here-proposed new variety—var. *glomerula*, from Washington Terr., Frank Tweedy, collector—the equal, one-nerved empty glumes are very narrow, acuminate-pointed and scarcely more than a line in length. The spikelets in this variety are arranged in dense clusters or glomerules along the extremities of the branches of the very diffuse panicle.

A species of *Cinna*—No. 6090 Bolander, N. 22 of the small collection—came into my hands for examination several years ago, and my note at that time was that it was distinct from *Cinna arundinacea*, var. *pendula*, of Gray's Manual, under which name it was distributed. The past season my attention was again called to this grass by seeing some notes upon it in Dr. Gray's Herbarium at Cambridge, made, if I remember rightly, by Mr. Bentham, suggesting the probability of its being a new species. After careful comparisons with *Cinna arundinacea* and *C. pendula*, I am convinced that this suggestion is correct, and propose that the species be named *Cinna Bolanderi*, recognizing the fact that Mr. Bolander, so far as I know, has alone collected it.

***Cinna Bolanderi*.**

Spikelets two and a half lines long, empty glumes broadly lanceolate, the upper one three-nerved, subequal, as long as the floret, which is scarcely, if at all, stipitate; culm stout, seven feet high (in Bolander's specimen), smooth; sheathes strongly striate, the lower smooth, the upper ones scabrous. Leaves firm in texture, prominently striate and scabrous on both sides, those of the middle portion of the culm one to two feet long, and three-quarters of an inch wide, all gradually tapering to a sharp point. Panicle eighteen inches long, loose and widely spreading.

From the characters above cited, the following synopsis may be made of the species in the genus:

Empty glumes unequal.

Spikelets $2\frac{1}{4}$ to 3 lines long.

C. arundinacea L. 1.

Empty glumes equal or nearly so.

Spikelet less than 2 lines long, floret stipitate.

C. pendula Trin. 2.

Spikelet more than 2 lines long, floret apparently sessile.

C. Bolanderi Scribn. 3.

EXPLANATION OF PLATE VII.

- FIG. 1.—Spikelet of *Cinna pendula* Trin.
FIG. 2.—Same with empty glumes removed, and the elongated rhachilla behind the palea brought forward into view.
FIG. 3.—Spikelet of *C. pendula*, var. *glomerula*.
FIG. 4.—Spikelet of *C. Bolanderi* Scribn.
FIG. 5.—Same with empty glumes removed.
FIG. 6.—Spikelet of *C. arundinacea* L.
FIG. 7.—A larger spikelet of same.
FIG. 8.—A spikelet of *C. arundinacea* with empty glumes spread out, and the continuation of the rhachilla behind the palea brought into view.
FIG. 9.—Spikelet of *C. arundinacea*, empty glumes removed ; *a*, the stipe.